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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL NADJ, DAVID WALTER CARR, and EDWARD D. FUNNEKOTTER

Appeal 2009-007613
Application 09/931,841
Technology Center 2100

Before JOSEPH L. DIXON, THU A. DANG, and
CAROLYN D. THOMAS, *Administrative Patent Judges.*

DANG, *Administrative Patent Judge.*

DECISION ON APPEAL[1]

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 5-10 and 22-27. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

A. INVENTION

According to Appellants, the invention relates to a method for high-speed scheduling and arbitration of events within a computing and networking system that includes the use of a software or hardware implementation of a unique "heap-like" data structure, known as a pile; wherein events are loosely stored in sorted order for ordered execution of the events (Abstract).

B. ILLUSTRATIVE CLAIM

Claim 5 is exemplary:

> 5. A method for scheduling events in a computer processing system, comprising:
>
> identifying queues, each of the queues associated with a corresponding priority, each of the queues including events;
>
> defining a data structure with a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, each of the k number of nodes stored contiguously in memory, wherein the k number is equal to a number of multiple queues;
>
> associating the queues with respective nodes of the data structure;

assigning a value representing the corresponding priority to the respective nodes;

determining a priority between the respective nodes based on respective values representing the corresponding priority to the respective nodes;

selecting one of the events corresponding to a node having a highest priority for transmission to a processing resource; and

processing the selected one of the events at the processing resource prior to remaining events.

C. REJECTION

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Cochran	US 6,701,324	Mar. 02, 2004

Claims 22-27 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 5-10 and 22-27 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Cochran. [2]

II. ISSUES

The issues are whether the Examiner has erred in determining that:

[2] The Examiner has withdrawn the rejection under 35 U.S.C. § 112, first paragraph (Ans. 3).

1. Claims 22-27 which recite "computer readable medium having program instructions for scheduling events in a computer processing system" are directed to non-statutory matter. In particular, the issue thus turns on whether the claimed computer readable medium could merely comprise a transitory, propagating signal, which is considered non-statutory.

2. Cochran teaches "defining a data structure with a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, each of the k number of nodes stored contiguously in memory" (claim 5). In particular, the issue turns on whether the Examiner has met the initial burden of showing which teachings of Cochran anticipate the node group of claim 1.

III. FINDING OF FACT

The following Finding of Fact (FF) are shown by a preponderance of the evidence.

Appellants' Invention

1. Appellants' invention is described as being implemented in hardware, software, firmware, and/or other available functional components or building blocks (Spec. 43, ll. 9-11).

IV. ANALYSIS

In this Decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Appeal Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

35 U.S.C. § 101

Claims 22-27

Appellants contend that claim 22 is directed to a statutory subject matter because "claim 22 involves a transformation to a different state" (App. Br. 5). Appellants argue further that the "computer readable medium" as recited in claim 22 is defined in the Specification as able to "be implemented equivalently in hardware, software, [and] firmware" (App. Br. 6), and thus the "computer readable medium" of claim 22 comprises "[f]irmware [which] includes software instructions stored in hardware" (App. Br. 6; Reply Br. 5).

The Examiner finds that the claimed invention set forth in claim 22 is not directed to "a practical application of a 35 U.S.C. 101 judicial exception" (Ans. 4). Specifically, the Examiner finds that claim 22 "merely recite[s] associating queues with a data structure" (*id.*). The Examiner explains that "[c]laim 22[,] taken as a whole[,] is directed to a mere program listing, i.e., to only [the program's] description or expression" (Ans. 5). Moreover, the Examiner finds that "[s]electing an event [from such mere program listing] for processing does not require any transformation [to] take place" (Ans. 7).

Regarding Appellants' argument that the term "computer readable medium" is encompassed by "firmware" (App. Br. 6; Reply Br. 5), the Examiner finds that "the term 'Firmware' is not claimed in the pending claims" (Ans. 7). Thus, the Examiner finds that "the claimed medium is not defined … [as] storing the program instructions in a computer processing system" as Appellants argue (*id.*).

To determine whether the claims are directed to statutory matter, we give the claims their broadest reasonable interpretation. *See In re Zletz*, 893

F.2d 319 (Fed. Cir. 1989). Contrary to Appellants' argument that the "computer readable medium" of claim 22 comprises "[f]irmware [which] includes software instructions stored in hardware," (App. Br. 6; Reply Br. 5), claim 22 does not place any limitation on the meaning of "computer readable medium." Therefore, we look to Appellants' Specification and find that Appellants' Specification is silent as to a definition of "computer readable medium," Appellants' Specification merely recites that any functional component of the invention may be implemented equivalently in hardware, software, and firmware (FF 1).

Thus, we broadly but reasonably interpret the "computer readable medium" as any medium having program instructions, including a transitory, propagating signal. That is, when the Specification is silent as to an express exclusion of transitory signals, we give "computer readable medium" its broadest reasonable interpretation as covering both forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media.

Our reviewing court has held that "[a] transitory, propagating signal [however] . . . is not a 'process, machine, manufacture, or composition of matter.' [These] four categories define the explicit scope and reach of subject matter patentable under 35 U.S.C. § 101; thus, such a signal cannot be patentable subject matter." *In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir. 2007). Specifically, signals are "unpatentable … as failing a *tangibility* requirement to be 'manufactures'" because they are not "*tangible* medi[a]." *Id.* at 1366 (emphasis added). Since the broadest reasonable interpretation of claim 22 covers a signal per se, we see no error in the rejection of the claim under 35 U.S.C. § 101 as covering non-statutory subject matter. *In re*

Nuijten, 500 F.3d 1346, 1356-57 (Fed. Cir. 20007) (transitory embodiments are not directed to statutory subject matter).

Although Appellants argue that "claim 22 involves a transformation to a different state" (App. Br. 5), we need not address the transformation issue since we find that the claimed "computer readable medium" may be interpreted broadly to include a transitory propagating signal.

Therefore, we affirm the Examiner's rejection of independent claim 22 under 35 U.S.C. § 101 as being directed to nonstatutory subject matter, as well as that of dependent claims 23-27 falling therewith.

35 U.S.C. § 102(e)

Claims 5-10 and 22-27

In the Answer, the Examiner finds that "[t]he disclosed data collection [of Cochran] is equated to a data structure because it comprises a root level (item 110) having a node group (108a-n) and the nodes sharing a pointer (bidirectional arrows pointing to and from the nodes via gateway)" (Ans. 7). Thus, in the Answer, the Examiner appears to find the claimed node group to read on the collectors 108a-n Cochran.

However, in the Final Rejection, the Examiner finds that "[g]ateways and collectors (106 and 108) are interpreted as pointers shared by nodes 104" (Fin. Rej. 5). That is, in the Final Rejection, the Examiner appears to find the claimed node group to read on endpoints 104.

Thus, we are unsure as to how Cochran teaches "defining a data structure with a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, each of the k number of nodes stored contiguously in memory" from the cited portions of Cochran cited by the Examiner. That is, it is unclear as to

whether the Examiner finds that the claimed nodes read on the collectors 108a-n or endpoints 104 of Cochran.

We therefore find that since the Examiner has not made a clear distinction as to what teachings of Cochran anticipate the claimed nodes, the Examiner has failed to meet the initial burden of proof required for the rejection pursuant to 35 U.S.C. § 102 (e).

Accordingly, we are constrained to reverse the Examiner's rejection of representative claim 5, claim 22 falling therewith, and claims 6-10 and 23-27 respectively depending therefrom under 35 U.S.C. § 102(e) as being anticipated by Cochran.

V. CONCLUSION AND DECISION

The Examiner's rejection of claims 22-27 under 35 U.S.C. § 102(e) is affirmed. The Examiner's rejection of claims 5-10 and 22-27 under 35 U.S.C. § 103(a) is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

peb

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